GOVERNMENT OF INDIA
SPACE
LOK SABHA

UNSTARRED QUESTION NO:2837
ANSWERED ON:03.08.2016
Silica Aerogel
Chandrakasi Shri M.

Will the Minister of SPACE be pleased to state:

(a) whether the ISRO has developed the lightest synthetic material called Silica aerogel or Blue-air and if so, the details thereof;
(b) the advantages and uses of the material; and
(c) whether ISRO can claim patent rights for this product, its process and if so, the details thereof and if not, the reasons therefor?

Answer

THE MINISTER OF STATE IN THE MINISTRY OF PERSONNEL, PG & PENSIONS AND IN THE PRIME MINISTER'S OFFICE (DR. JITENDRA SINGH):

(a) As a spin-off of Research & Development in Space Technology, Vikram Sarabhai Space Centre (VSSC) of Indian Space Research Organisation (ISRO) has developed Silica aerogel or Blue-air. Aerogels are synthetic porous ultra-light materials derived from gel, in which the liquid component of the gel is replaced with air. Aerogels exhibit extremely low density and low thermal conductivity.

(b) It is extremely light in weight, has excellent thermal resistance and acts as a good insulator. Due to its very high thermal resistance, silica aerogel could be used for - (i) insulating jackets & foot insoles in boots for extreme cold conditions, (ii) insulating rocket engines, (iii) painting windows to keep them cool or warm, (iv) insulating pipelines.

(c) ISRO has assessed that the process through which the product is realised is patentable and necessary steps are being taken to filing the patent.

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